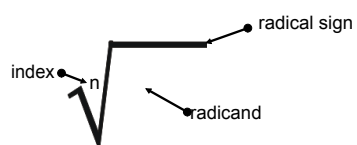


5.5 Roots of Real Numbers



Simplify
 $\sqrt{36} = 6$ principal root

Solve
 $\sqrt{x^2} = \sqrt{36}$
 $x = \pm 6$

$\sqrt{75}$
 $25 \cdot 3$
 $5 \cdot 5 \cdot 3$
 $5\sqrt{3}$

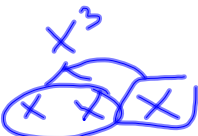
$\sqrt{24}$
 $6 \cdot 4$
 $3 \cdot 2 \cdot 2 \cdot 2$
 $2\sqrt{6}$

$\sqrt{32}$
 $8 \cdot 4$
 $2 \cdot 2 \cdot 2 \cdot 2 \cdot 2$
 $4\sqrt{2}$

$\sqrt[3]{27}$
 $9 \cdot 3$
 $3 \cdot 3 \cdot 3$
 3

$$\sqrt{16x^3}$$

$4x\sqrt{x}$



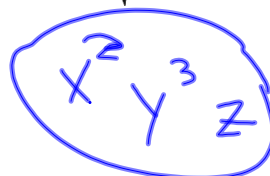
$$-\sqrt{9x^6}$$

$-3x^3$

$$\pm \sqrt{(q^3 + 5)^4}$$

$$\pm (q^3 + 5)^2$$

$$\sqrt[4]{x^8 y^{12} z^4}$$



$$\sqrt[3]{-27p^6}$$

$$-3p^2$$

$$\sqrt[5]{243a^{10}b^3}$$

$$3a^2\sqrt[5]{b^3}$$

$$\sqrt{-4}$$

Not Real

$$\sqrt[3]{-8}$$

$$-2$$

$$\sqrt[6]{t^7}$$

$$t\sqrt{t}$$

HW

p248

31, 43, 49, 30-54 x3 (Multiples of 3)